

INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/015365

A. CLASSIFICATION OF SUBJECT MATTER
Int.Cl⁷ F15B15/10

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
Int.Cl⁷ F15B15/10, B25J15/12Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
Jitsuyo Shinan Koho 1926-1996 Toroku Jitsuyo Shinan Koho 1994-2004
Kokai Jitsuyo Shinan Koho 1971-2004 Jitsuyo Shinan Toroku Koho 1996-2004

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01-72479 A1 (SEIKO EPSON CORP.), 04 October, 2001 (04.10.01), Figs. 1, 2; 'Pressure Sensor 30', 'Sound wave Sensor 34' & EP 1190819 A1 & US 2002157388 A1 & DE 60106363 D D1	1-3, 5, 9-15
X	US 4860639 A (BRIDGESTONE CORP.), 29 August, 1989 (29.08.89), Full text & JP 61140603 A & JP 61157806 A & JP 61157804 A	1-3
X	JP 6-117419 A (BRIDGESTONE CORP.), 26 April, 1994 (26.04.94), 'Sonsor 6' (Family: none)	1

 Further documents are listed in the continuation of Box C. — See patent family annex. — — —

* Special categories of cited documents:	
"A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search 25 November, 2004 (25.11.04)	Date of mailing of the international search report 14 December, 2004 (14.12.04)
Name and mailing address of the ISA/ Japanese Patent Office	Authorized officer
Facsimile No.	Telephone No.

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	JP 7-071406 A (CKD Kabushiki Kaisha), 17 March, 1995 (17.03.95), 'Sensor 6' (Family: none)	1, 3
A	US 5697285 A (NAPPI BRUCE), 16 December, 1997 (16.12.97), Full text & WO 9722782 A1	1-15
Y	JP 57-037107 A (Nippon Kuatsu System Kabushiki Kaisha), 01 March, 1982 (01.03.82), 'Spring 6', 'Detection Pin 10' (Family: none)	4
Y	Microfilm of the specification and drawings annexed to the request of Japanese Utility Model Application No. 126005/1989(Laid-open No. 065002/1991) (Atsugi Unisia Corp.), 25 June, 1991 (25.06.91), 'Compression Spring 13', 'Pressure Sensor 14' (Family: none)	4
A	JP 63-124840 A1 (MITSUBISHI ELECTRIC CORP.), 28 May, 1988 (28.05.88), 'Semiconductor device 20' & US 4864992 A & DE 3737436 A1 & KR 9107242 B1	6-8
A	JP 8-026104 A (Toshiba Corp.), 30 January, 1996 (30.01.96), Fig. 16 (Family: none)	1-15